RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10|7|4|,333 B

Source: _____

Date Processed by STIC: _____ 4-29-05

ENTERED

IFWO

RAW SEQUENCE LISTING   DATE: 04/29/2005
PATENT APPLICATION: **US/10/714,333B**   TIME: 15:47:15

Input Set : **E:\13499us.txt**
Output Set: **N:\CRF4\04292005\J714333B.raw**

```
 4 <110> APPLICANT: Dharmacon, Inc.
 5       Khvorova, Anastasia
 6       Reynolds, Angela
 7       Leake, Devin
 8       Marshall, William
 9       Scaringe, Stephen
11 <120> TITLE OF INVENTION: Functional and Hyperfunctional siRNA
13 <130> FILE REFERENCE: 13499US
15 <140> CURRENT APPLICATION NUMBER: 10/714,333B
16 <141> CURRENT FILING DATE: 2003-11-14
18 <150> PRIOR APPLICATION NUMBER: 60/502,050
19 <151> PRIOR FILING DATE: 2003-09-10
21 <150> PRIOR APPLICATION NUMBER: 60/426,137
22 <151> PRIOR FILING DATE: 2002-11-14
24 <160> NUMBER OF SEQ ID NOS: 1591911
26 <170> SOFTWARE: Proprietary
28 <210> SEQ ID NO: 1
29 <211> LENGTH: 19
30 <212> TYPE: RNA
31 <213> ORGANISM: Artificial Sequence
33 <220> FEATURE:
34 <223> OTHER INFORMATION: siRNA sense strand
36 <220> FEATURE:
37 <221> NAME/KEY: misc_feature
38 <222> LOCATION: (1)...(2)
39 <223> OTHER INFORMATION: n is any nucleotide
41 <220> FEATURE:
42 <221> NAME/KEY: misc_feature
43 <222> LOCATION: (4)...(4)
44 <223> OTHER INFORMATION: n is any nucleotide
46 <220> FEATURE:
47 <221> NAME/KEY: misc_feature
48 <222> LOCATION: (6)...(9)
49 <223> OTHER INFORMATION: n is any nucleotide
51 <220> FEATURE:
52 <221> NAME/KEY: misc_feature
53 <222> LOCATION: (12)...(12)
54 <223> OTHER INFORMATION: n is any nucleotide
56 <220> FEATURE:
57 <221> NAME/KEY: misc_feature
58 <222> LOCATION: (15)...(18)
59 <223> OTHER INFORMATION: n is any nucleotide
61 <400> SEQUENCE: 1
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RAW SEQUENCE LISTING   DATE: 04/29/2005
PATENT APPLICATION: US/10/714,333B   TIME: 15:47:15

Input Set : **E:\13499us.txt**
Output Set: **N:\CRF4\04292005\J714333B.raw**

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W--> 62 nnanannnnu cnaannnna                                    19
     64 <210> SEQ ID NO: 2
     65 <211> LENGTH: 19
     66 <212> TYPE: RNA
     67 <213> ORGANISM: Artificial Sequence
     69 <220> FEATURE:
     70 <223> OTHER INFORMATION: siRNA sense strand
     72 <220> FEATURE:
     74 <221> NAME/KEY: misc_feature
     75 <222> LOCATION: (1)...(2)
     76 <223> OTHER INFORMATION: n is any nucleotide
     78 <220> FEATURE:
     79 <221> NAME/KEY: misc_feature
     80 <222> LOCATION: (4)...(4)
     81 <223> OTHER INFORMATION: n is any nucleotide
     83 <220> FEATURE:
     84 <221> NAME/KEY: misc_feature
     85 <222> LOCATION: (6)...(9)
     86 <223> OTHER INFORMATION: n is any nucleotide
     88 <220> FEATURE:
     89 <221> NAME/KEY: misc_feature
     90 <222> LOCATION: (12)...(12)
     91 <223> OTHER INFORMATION: n is any nucleotide
     93 <220> FEATURE:
     94 <221> NAME/KEY: misc_feature
     95 <222> LOCATION: (15)...(18)
     96 <223> OTHER INFORMATION: n is any nucleotide
     98 <400> SEQUENCE: 2
W--> 99 nnanannnnu gnaannnna                                    19
    101 <210> SEQ ID NO: 3
    102 <211> LENGTH: 19
    103 <212> TYPE: RNA
    104 <213> ORGANISM: Artificial Sequence
    106 <220> FEATURE:
    107 <223> OTHER INFORMATION: siRNA sense strand
    109 <220> FEATURE:
    110 <221> NAME/KEY: misc_feature
    111 <222> LOCATION: (1)...(2)
    112 <223> OTHER INFORMATION: n is any nucleotide
    114 <220> FEATURE:
    115 <221> NAME/KEY: misc_feature
    116 <222> LOCATION: (4)...(4)
    117 <223> OTHER INFORMATION: n is any nucleotide
    119 <220> FEATURE:
    120 <221> NAME/KEY: misc_feature
    121 <222> LOCATION: (6)...(9)
    122 <223> OTHER INFORMATION: n is any nucleotide
    124 <220> FEATURE:
    125 <221> NAME/KEY: misc_feature
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RAW SEQUENCE LISTING   DATE: 04/29/2005
PATENT APPLICATION: US/10/714,333B   TIME: 15:47:15

Input Set : E:\13499us.txt
Output Set: N:\CRF4\04292005\J714333B.raw

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     126 <222> LOCATION: (12)...(12)
     127 <223> OTHER INFORMATION: n is any nucleotide
     129 <220> FEATURE:
     130 <221> NAME/KEY: misc_feature
     131 <222> LOCATION: (15)...(18)
     132 <223> OTHER INFORMATION: n is any nucleotide
     134 <400> SEQUENCE: 3
W--> 135 nnanannnnu unaannnna                                 19
     137 <210> SEQ ID NO: 4
     138 <211> LENGTH: 19
     139 <212> TYPE: RNA
     140 <213> ORGANISM: Artificial Sequence
     142 <220> FEATURE:
     143 <223> OTHER INFORMATION: siRNA sense strand
     145 <220> FEATURE:
     146 <221> NAME/KEY: misc_feature
     147 <222> LOCATION: (1)...(2)
     148 <223> OTHER INFORMATION: n is any nucleotide
     150 <220> FEATURE:
     151 <221> NAME/KEY: misc_feature
     152 <222> LOCATION: (4)...(4)
     153 <223> OTHER INFORMATION: n is any nucleotide
     155 <220> FEATURE:
     156 <221> NAME/KEY: misc_feature
     157 <222> LOCATION: (6)...(9)
     158 <223> OTHER INFORMATION: n is any nucleotide
     160 <220> FEATURE:
     161 <221> NAME/KEY: misc_feature
     162 <222> LOCATION: (12)...(12)
     163 <223> OTHER INFORMATION: n is any nucleotide
     165 <220> FEATURE:
     166 <221> NAME/KEY: misc_feature
     167 <222> LOCATION: (15)...(18)
     168 <223> OTHER INFORMATION: n is any nucleotide
     170 <400> SEQUENCE: 4
W--> 171 nnanannnnu cncannnna                                 19
     173 <210> SEQ ID NO: 5
     174 <211> LENGTH: 19
     175 <212> TYPE: RNA
     176 <213> ORGANISM: Artificial Sequence
     178 <220> FEATURE:
     179 <223> OTHER INFORMATION: siRNA sense strand
     181 <220> FEATURE:
     182 <221> NAME/KEY: misc_feature
     183 <222> LOCATION: (1)...(2)
     184 <223> OTHER INFORMATION: n is any nucleotide
     186 <220> FEATURE:
     187 <221> NAME/KEY: misc_feature
     188 <222> LOCATION: (4)...(4)
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RAW SEQUENCE LISTING   DATE: 04/29/2005
PATENT APPLICATION: US/10/714,333B   TIME: 15:47:15

Input Set : E:\13499us.txt
Output Set: N:\CRF4\04292005\J714333B.raw

```
       189 <223> OTHER INFORMATION: n is any nucleotide
       191 <220> FEATURE:
       192 <221> NAME/KEY: misc_feature
       193 <222> LOCATION: (6)...(9)
       194 <223> OTHER INFORMATION: n is any nucleotide
       196 <220> FEATURE:
       197 <221> NAME/KEY: misc_feature
       198 <222> LOCATION: (12)...(12)
       199 <223> OTHER INFORMATION: n is any nucleotide
       201 <220> FEATURE:
       202 <221> NAME/KEY: misc_feature
       203 <222> LOCATION: (15)...(18)
       204 <223> OTHER INFORMATION: n is any nucleotide
       206 <400> SEQUENCE: 5
W-->   207 nnanannnnu gncannnna                                           19
       209 <210> SEQ ID NO: 6
       210 <211> LENGTH: 19
       211 <212> TYPE: RNA
       212 <213> ORGANISM: Artificial Sequence
       214 <220> FEATURE:
       215 <223> OTHER INFORMATION: siRNA sense strand
       217 <220> FEATURE:
       218 <221> NAME/KEY: misc_feature
       219 <222> LOCATION: (1)...(2)
       220 <223> OTHER INFORMATION: n is any nucleotide
       222 <220> FEATURE:
       223 <221> NAME/KEY: misc_feature
       224 <222> LOCATION: (4)...(4)
       225 <223> OTHER INFORMATION: n is any nucleotide
       227 <220> FEATURE:
       228 <221> NAME/KEY: misc_feature
       229 <222> LOCATION: (6)...(9)
       230 <223> OTHER INFORMATION: n is any nucleotide
       232 <220> FEATURE:
       233 <221> NAME/KEY: misc_feature
       234 <222> LOCATION: (12)...(12)
       235 <223> OTHER INFORMATION: n is any nucleotide
       237 <220> FEATURE:
       238 <221> NAME/KEY: misc_feature
       239 <222> LOCATION: (15)...(18)
       240 <223> OTHER INFORMATION: n is any nucleotide
       242 <400> SEQUENCE: 6
W-->   243 nnanannnnu uncannnna                                           19
       245 <210> SEQ ID NO: 7
       246 <211> LENGTH: 19
       247 <212> TYPE: RNA
       248 <213> ORGANISM: Artificial Sequence
       250 <220> FEATURE:
       251 <223> OTHER INFORMATION: siRNA sense strand
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RAW SEQUENCE LISTING   DATE: 04/29/2005
PATENT APPLICATION: US/10/714,333B   TIME: 15:47:15

Input Set : E:\13499us.txt
Output Set: N:\CRF4\04292005\J714333B.raw

```
253 <220> FEATURE:
254 <221> NAME/KEY: misc_feature
255 <222> LOCATION: (1)...(2)
256 <223> OTHER INFORMATION: n is any nucleotide
258 <220> FEATURE:
259 <221> NAME/KEY: misc_feature
260 <222> LOCATION: (4)...(4)
261 <223> OTHER INFORMATION: n is any nucleotide
263 <220> FEATURE:
264 <221> NAME/KEY: misc_feature
265 <222> LOCATION: (6)...(9)
266 <223> OTHER INFORMATION: n is any nucleotide
268 <220> FEATURE:
269 <221> NAME/KEY: misc_feature
270 <222> LOCATION: (12)...(12)
271 <223> OTHER INFORMATION: n is any nucleotide
273 <220> FEATURE:
274 <221> NAME/KEY: misc_feature
275 <222> LOCATION: (15)...(18)
276 <223> OTHER INFORMATION: n is any nucleotide
278 <400> SEQUENCE: 7
```
W--> 279 nnanannnnu cnuannnna   19
```
    281 <210> SEQ ID NO: 8
    282 <211> LENGTH: 19
    283 <212> TYPE: RNA
    284 <213> ORGANISM: Artificial Sequence
    286 <220> FEATURE:
    287 <223> OTHER INFORMATION: siRNA sense strand
    289 <220> FEATURE:
    290 <221> NAME/KEY: misc_feature
    291 <222> LOCATION: (1)...(2)
    292 <223> OTHER INFORMATION: n is any nucleotide
    294 <220> FEATURE:
    295 <221> NAME/KEY: misc_feature
    296 <222> LOCATION: (4)...(4)
    297 <223> OTHER INFORMATION: n is any nucleotide
    299 <220> FEATURE:
    300 <221> NAME/KEY: misc_feature
    301 <222> LOCATION: (6)...(9)
    302 <223> OTHER INFORMATION: n is any nucleotide
    304 <220> FEATURE:
    305 <221> NAME/KEY: misc_feature
    306 <222> LOCATION: (12)...(12)
    307 <223> OTHER INFORMATION: n is any nucleotide
    309 <220> FEATURE:
    310 <221> NAME/KEY: misc_feature
    311 <222> LOCATION: (15)...(18)
    312 <223> OTHER INFORMATION: n is any nucleotide
    314 <400> SEQUENCE: 8
```

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 04/29/2005
PATENT APPLICATION: **US/10/714,333B**   TIME: 15:47:16

Input Set : **E:\13499us.txt**
Output Set: **N:\CRF4\04292005\J714333B.raw**

<u>Please Note:</u>
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

```
Seq#:1;  N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:2;  N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:3;  N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:4;  N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:5;  N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:6;  N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:7;  N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:8;  N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:9;  N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:10; N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:11; N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:12; N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:13; N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:14; N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:15; N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:16; N Pos.  1,3,5,6,7,8,11,14,15,16,17
Seq#:17; N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:18; N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:19; N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:20; N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:21; N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:22; N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:23; N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:24; N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:25; N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:26; N Pos.  1,2,4,6,7,8,9,12,15,16,17,18
Seq#:27; N Pos.  1,2,4,6,7,8,9,10,12,15,16,17,18
Seq#:28; N Pos.  4,5,7,9,10,11,12,15,18,19,20,21
```

```
L:62 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0
L:99 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0
L:135 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
L:171 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0
L:207 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0
L:243 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0
L:279 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0
L:315 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0
L:351 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:0
L:387 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0
L:423 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0
L:459 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0
L:495 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:0
L:531 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0
L:567 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0
L:603 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:0
L:639 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:0
L:675 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:0
L:711 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19 after pos.:0
L:747 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:0
L:783 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:0
L:819 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:0
L:855 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:0
L:891 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24 after pos.:0
L:927 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25 after pos.:0
L:963 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26 after pos.:0
L:999 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:0
L:1035 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:0
```